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Viczián, Edward

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Budapest

1919

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Viczián, Edward.
Waterways, hydraulic powers and territorial integrity of Hungary. Budapest, Hungarian territorial integrity league, 1919.
12 p. 18½ cm.

Vol. of pamphlets.

only ed

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TECHNICAL MICROFORM DATA

FILM SIZE: 35mm REDUCTION RATIO: 9:1 IMAGE PLACEMENT: IA (IIA) IB IIB

DATE FILMED: 11-12-97 INITIALS: AP

TRACKING # : 29317

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WATERWAYS, HYDRAULIC POWERS AND TERRITORIAL INTEGRITY OF HUNGARY

BY

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HUNGARIAN
TERRITORIAL INTEGRITY LEAGUE
BUDAPEST, 1919

PRINTED BY THE
PESTER LLOYD PRESS

Waterways, Hydraulic Powers and Territorial Integrity of Hungary.

In respect to her water system Hungary may be regarded as one of most beautiful creations in nature.

Like a great evergreen wreath, the Eastern Alps, known under the name of the Carpathian range, encircle, together with the Balcan mountains, the great Hungarian Alföld (lowlands): not unjustly called the granary of Europe. Whereas the Alföld lies 100—120 meters above Sea-level, the surrounding mountains alternate between 1000—2500 meter in height. Like a gigantic sea shell the country lies before us. Its rivers all display a centripetal tendency, and traversing the Alföld, send their waters, through the medium of the mighty master-stream into the Black Sea. The basins of those rivers and streams which not following this rule, flow out of the country (Dunajec, Poprád, Olt, Zsill etc.) form but 6 1/2 percent of the natural waterways of Hungary proper.

Neither politics nor conferences being able to change the position of mountains and valleys, so by the eternal laws of nature, the non Magyar races living within the wreath of the Carpathians will never be

able to reach the Black See except along such strictly Magyar rivers as the Danube, Theiss, Drave, Maros, etc.

With the exception of the Pruth, which joins the Danube at its Delta all its other navigable tributaries are in Hungary. Those navigable water-ways of Hungary which are at least 2 meters in depth are 3200 kilometers in extent. Their length will exceed 4000 Km, if the river improvement scheme set forth in the Bill 1908 LXIX can be carried out. If we include such shallow rivers, the channelling of which, considering the present lack of traffic would be profitable, and those rivers sections which, by the use of piping would enable navigation to be brought right up to the feet of the mountains, Hungary's navigable waterroute would then be nearly 6000 km. These facts best prove the uniform geographical character of the Carpathian basins.

For river regulation and preventative works against inundations a uniform water system demands a uniform administration.

A universally accepted preventive measure against floods and inundations is to hinder the overflow in the mountains, check the currant as it enters the valley, and keep the water between embankments in the plains.

Such works in Hungary have already been partly carried out and designs prepared for their completion. In the Danube and Theiss valleys 24,000 Km^2 have been rescued from the floods.

400 millions crowns have already been spent by the government and a further 60 millions voted for the mountain districts.

To dismember the country would be to disturb the unity and harmony of the regulation work. The Magyar population confined then to the plains would not be inclined to invest their millions in foreign countries, in the mountainous districts of people who have deserted them, nor would it be possible to induce the separated and alienated peoples to make sacrifices and investments for a united undertaking concerning mutual interests in water regulations. The result would be that the preventive measures taken against the overflowing of the Danube, Theiss, Rabe, Vág, Bodrog, Szamos, Körös and Maros will be ruined, the Alföld with its crops and alimentary riches inundated and destroyed, that Alföld which when in a state of security is for ever the most natural source of food supplies for the non-Magyar races living on the upper regions (1000—2500 meter high) of the Carpathian mountains.

Water can only become a useful factor of culture when its hostile effects and damaging elements are restrained. In view of these facts, is it right to destroy a uniform water-system by dissolving the integrity of the country, to hinder and obstructs the possibility of a uniform water regulation and improvement system, to cripple for ever the harmonious and cultural work of water-administration within a territory of 332,000 Km^2?

An ideal state of water economy in the valleys of the Carpathians can only be attained after the chief works of regulation have been completed.

Such work however can only be carried out in

a uniform water-system by uniform procedure. And this is of even greater importance in such countries as Hungary, where rapid snow-melting and excessive summer aridity are the causes of extremes in the behaviour of the rivers.

To counterbalance the effects of these extremes, gigantic dams must be built among the hills close so the valleys and collect the hundred and hundred of millions cubic meters of water that rushes down in spring when the snow melts and use it to supply the ditches and troughs that feed the parched soil in summer. Besides this, by the erection of hydroelectric plants, the incessant and enormous waterpower thus available may be employed for industrial and other purposes.

The Hungarian goverment has not only drawn up a program but has begun on its realization. In those mountain districts inhabited by Magyars, Slovaks, Ruthens, Roumans, Szeklers, Serbs, or mixed populations, 930 metriological stations are installed and for several decades observations have been taken. The data has been carefully collected and studied by the governement so that the development of the economical resources and industrial prosperity of Hungary inside of this action may also be for the benefit of those districts inhabited by the non-Magyar-races.

The result of these calculations show us that to sink a 1 meter flood for the protection of the crops in the Theiss basin, — and the same applies also to

all the rivers of the Alföld, — an extensive system of flood-gates and dykes is necessary.

According to pre-war extimates the Hungarian government was ready to spend about 1/2 milliard Crowns for such works, extending over 100—150 places and embanking 2300 million m^3 of water. These estimates would also satisfy the erection of hydraulic power stations but naturally this work can only be done economically in the hilly parts of the country.

By the use of the water, collected and dyked in the hills, electric power can be generated by hydroelectric plants. The centralizing the power of the various plants to include the large rivers and even the Danube in the series, the following towns could be used as electrical centres:

Orsova	320.000	th. H. P.
Déva	486.000	„ „ „
Bánffyhunyad	212.000	„ „ „
Máramarossziget	388.000	„ „ „
Kassa	148.000	„ „ „
Rózsahegy	312.000	„ „ „
Szered	318.000	„ „ „
Pozsony	50.000	„ „ „
Muraszerdahely	82.000	„ „ „
Barcs	87.000	„ „ „
	2,403.000	th. H. P.

Besides the 2,403.000 th. H. P. connected on the main circuit, another 385.000 H. P. can be supplied by other parts of the country and especially in Transylvania, where the Saxons and the Szeklers live.

The abowe mentioned 2,403.000 th. H. P. of valu-

able water-power would be a limitless source of energy production. The mineral-energy of the country could be then put on one side as a reserve, thus preventing a too rapid exhaustion; the production of mineral energy in Hungary being in all cases insufficient for the needs of the land.

The length of the main circuit, counecting, up the main plants on the indicated line is 1300 kilometers, and by closing the circuit between Barcs and Orsova would be about 1700 kilometers. This would be the main Carpathian electrical circuit which with its enormous power would considerably relieve the mineral energy in the basin of the Danube and prevent it being used up too quickly. The water regulation as proposed above demands uniform planning as well as uniform administration.

If we follow the line of this electrical main circuit on the ethnographical map we see it also absorbs the water power of such territories of which the inhabitants are mixed, partly Magyars and non-Magyars, but the Slovak and Rouman aspirations would tear these territories form Hungary without considering the percentage of Magyar inhabitants of these mixed populations. As the waterpower is vital for the existance of the whole country, special care is required in determining where such territories, rich in waterpower should belong etnogarphically.

Hungarian enterprises have invested up to present nearly 40 million crowns for the establishment of hydro-electrical plants on the slopes of the Carpathians,

and the further intensive developement of hydraulic power has been considered as a task for the near future.

Up to the present Hungary has practically only used coal in the production of energy and her annual coal consumption before the war, amounted to 11 million tons: equalling nearly the developement of $1^1/_2$ million H. P. It is not necessary to point out that the largest consumer was the railway net extended over the whole country, furthermore the heart of the country, the densely populated Alföld with its towns and Budapest where one third of Hungary's whole industry is centralized.

The energy required for the railways and also for the Danube-Theiss valleys would be amply supplied by the water-power (2·78 millions) of the Carpathians and not the present but also the future.

This is of great importance not only because Budapest and the territories inhabited by Magyars have not sufficient coalmines but they have no other sources of energy.

The population living within the Carpathians is forced to be an economic community because only that can assure the industrial and economical independence and prosperity of the territories inhabited by Magyars if the Magyar people may us the waterpower for her own benefit also. On the otherhand the cheap provisioning of those territories peopled by non-Magyar depends chiefly on the prosperity and productive power of the Alföld. The non Magyar population of the mountainous regions can owing to the orographical situation

best place their industrial products and raw materials on the Alföld, because the transport whether by rail, by road, or by river to the Magyar-Alföld is much cheaper than over the 1000—2000 meters high mountain ranges to the neighbouring countries.

On the Vág, Theiss and Maros rafts can only go stream downwards. The raw materials found in the Slovak and Rouman mountain regions can only be used by the Alföld if the economical and industrical existance of the Hungarian population is assured, if its commercial capacity is not crippled, if it can independently produce the necessary power that is it must not be dependent on the coal production of the neighbouring countries.

If the territorrial integrity of the country is left untouched the Hungarian population of the Danube and Theiss valley would willingly devote their millions for the regulation of a central water system in the Carpathians, for which purpose 60 millions crowns have already been voted in the Bill 1914 XXXVIII. If the Magyar and non-Magyar population are not separated they could fully satisfy their special and mutual interests, since the protection against inundations, the production of energy and irrigation can only be attained by the common sacrifice and work of all the peoples living with the protecting wreath of the Carpathians.

Furthermore these people can best satisfy the requirements of industry, traffic, agriculture if the territorial integrity of the country does not suffer.

On the otherhand, were the country so be divided into six or seven parts and the greater parts of these, contrary to the *Wilsonian* principles, joined to the neighbouring countries this would mean the destruction of the unity of the Carpathian water-system and would seriously damage economical interests and those of the neighbouring countries as well.

The security of 7 million acres of agricultural land rescued from inundations, the establishmant of a 2·4 million H. P. hydroelectrical circuit and the irrigation of many hundred-thousands of acres are the main principles which from a hydrographical standpoint demand the territorial integrity of Hungary.

The neglection of these principles would mainly destroy the vital existence of territories inhabited by Magyars but would also cause enormous damage to the neighbouring countries since it would hinder the general cultural development.

The violation of the territorial integrity of Hungary would destroy the economical balance in the Carpathian valley and would be the cause a whole line of misunderstanding and disputes.

Hungary is an exporting state and her raw-materials and food-stuffs were gladly consumed by the Entente powers. The Carpathian basin however can only remain a source export provided development, its overproduction is not crippled.

One of the conditions for this however is a uniform water-system as outlined above. It is of European interest that Hungary should not be hindered in her

economical and cultural work. The people living together here since a thousand years can only by common accord utilize for the benefit of the whole of Europe the natural resources which latitate in a uniform water-system, but if the Peace Conference, for etnographical and political reasons only, violate this hidrographical unity the enormous interests latitating in the Hungarian watersystem will perish forever, and besides the loss to humanity caused by such dissolving effects, by the wasting of such sources of production not only will Hungary suffer but the surrounding countries will indirectly be seriously effected.

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The American Peace and Hungary,
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A Plea in Support of Hungary's Territorial Integrity,
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